

Debika Datta | Curriculum Vitae

Department of Biosciences and Bioengineering, IIT Guwahati, India-781039.

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Currently, I'm a P.h.D student in the department of Biosciences and Bioengineering at Indian Institute of Technology Guwahati. I am working under the supervision of Dr. Nitin Chaudhary and Dr. Vibin Ramakrishnan. My research focuses on the design and synthesis of peptide based functional nano-structures.

Research Interests

Functional superstructures through self-assembly of designed amino acids, Peptides and Peptidomimetics, Protein/peptide aggregation, Molecular Modeling and Simulation.

Education

Academic Qualifications.....

- **P.h.D. Student**
○ Biosciences and Bioengineering, IIT Guwahati. , 2013–present
- **PG Diploma (in Advanced Bioinformatics)**
○ First Class, University of Calcutta 20012–2013
- **B.Tech (in Biotechnology)**
○ DGPA 8.62/10, West Bengal University of Technology 2008–2011

Notable Projects.....

- **P.h.D Work (Ongoing):** Functional Superstructures Through Self-Assembly of Designed Amino Acids, Peptides and Peptidomimetics.
- **B. Tech Project:** Antimicrobial Activity of Leaves of *Parthenium hysterophorus*.

Research Publications

- Debika Datta, Adicherla Harikrishna, Ramakrishnan Nagaraj, and Nitin Chaudhary. **Self-assembly of Beta-turn motif-connected tandem repeats of Abeta 16-22 and its aromatic analogs.** *Peptide Science*, 2018; e24099. DOI:10.1002/pep2.24099
- Debika Datta, , Vishnu Kumar, Sachin Kumar, Ramakrishnan Nagaraj, and Nitin Chaudhary. **Hydrogel formation by an aromatic analog of beta-amyloid fragment, Abeta 16-22 – a scaffold for 3-D cell culture.** *ACS Omega*, 2019; 4(1), 620627. DOI:10.1021/acsomega.8b02771

Computational Biology skills

- **Programming Languages:** C, Java and Perl. **Molecular Dynamics Simulation:** Gromacs. **Molecular Modelling Tools:** Pymol, Rasmol, Avogadro, Chimera, Discovery Studio. **Web Development:** HTML. **Other:** Ribosome, Autodock.

Technical Skills

- **Biophysical Techniques:** Spectroscopy (UV-Vis, Fluorescence, IR, CD, Raman, NMR), HPLC, DLS, AFM, TEM, FESEM. **Organic Synthesis:** Solid Phase Peptide Synthesis, Liquid Phase Peptide Synthesis

Presentations/Conferences/Workshops Attended

- Presented Poster at The National Workshop on Fluorescence and Raman Spectroscopy, FCS 2017, IIT Guwahati.
- Presented Poster at The International Conference on Advances in Biological Systems and Materials Science in Nano World, ABSMSNW 2017, IIT BHU.
- Attended The luCr Workshop on X-Ray Diffraction Systems and Related Applications, 2015, IIT Guwahati.
- Presented Poster at The 13th Conference of the Asian Crystallographic Association, ASCA 2015.
- Presented Poster and Attended The National Workshop on Fluorescence and Raman Spectroscopy, FCS 2014, IISER Pune.
- Presented Poster at The 6th Annual Meeting of Proteomics Society India, December 2014, IIT Bombay.

Research Internships

- Research Internship Under INSA-INSc-NASI Summer Research Fellowship, Under the Supervision of Dr. Chetan Gadgil, NCL Pune. Project Title: *Expression Analysis of Intragenic miRNA and Host mRNA*.
- Research Internship Under the Supervision of Professor T. S. Vasulu at Indian Statistical Institute, Kolkata. Project Title: *Molecular Phylogenetics and Population Genetics of micro-RNA and its Target Across Species*.
- Research Internship Under the Supervision of Professor Arun Kumar Pal at Saha Institute of Nuclear Physics, Kolkata. Project Title: *Radio-Protection of Turmeric Extract in Bacterial System*.

Teaching and Instrumentation Experience

- Bioinformatics and Computational Biology, Teaching Assistant, NMR Operator, Central Instruments Facility, AFM Operator, Department of Biosciences and Bioengineering, IIT Guwahati.

Professional Affiliations

- American Peptide Society, Indian Biophysical Society, Society of Biological Chemists, India.

Awards and Achievements

- Qualified GATE 2013 with AIR 23.
- Summer Research Fellowship Under INSA-INSc-NASI, NCL Pune.
- Awarded with First Prize in the Poster Presentation at 6th Annual Meeting of Proteomics Society India, December 2014, held at IIT Bombay.